

ABSTRACT OF THE DISCLOSURE

A phased-array antenna system and other types of radio frequency (RF) devices and systems using microelectromechanical switches ("MEMS") and low-temperature co-fired ceramic ("LTCC") technology and a method of fabricating such phased-array antenna system and other types of radio frequency (RF) devices are disclosed. Each antenna or other type of device includes at least two multilayer ceramic modules and a MEMS device fabricated on one of the modules. Once fabrication of the MEMS device is completed, the two ceramic modules are bonded together, hermetically sealing the MEMS device, as well as allowing electrical connections between all device layers. The bottom ceramic module has also cavities at the backside for mounting integrated circuits. The internal layers are formed using conducting, resistive and high-k dielectric pastes available in standard LTCC fabrication and low-loss dielectric LTCC tape materials.